

DEPARTMENT OF LABOR AND ECONOMIC GROWTH

DIRECTOR'S OFFICE

CONSTRUCTION CODE

Filed with the Secretary of State on
These rules take effect

(By authority conferred on the director of the department of labor and economic growth by section 4 of 1972 PA 230, MCL 125.1504, and Executive Reorganization Order Nos. 1996-2 and 2003-1, MCL 445.2001 and 445.2011)

R 408.30901a, R 408.30905a, R 408.30906a, R 408.30907a, R 408.30908a, R 408.30909a, R 408.30910a, R 408.30915a, R 408.30918a, R 408.30927a, R 408.30935a, R 408.30936a, R 408.30945a, and R 408.3995a of the Michigan Administrative Code are amended and R 408.30912a is added to the code as follows:

PART 9A. MECHANICAL CODE

AMENDMENTS AND ADDITIONS TO BASIC MECHANICAL CODE

R 408.30901a Adoption by reference of international mechanical code.

Rule 901a. The provisions of the international mechanical code, 2003~~6~~ edition, except for sections 103.2, 103.4, 104.2, 106.5.1 to 106.5.3, 107.1.2 to 107.1.2.3, 109.2 to 109.7 and appendix B govern the construction, alteration, relocation, demolition, use and occupancy of buildings and structures. With the exceptions noted, the code is adopted in these rules by reference. All references to the International Building Code, International Residential Code, International Energy Conservation Code, International Electrical Code, International Mechanical Code, and International Plumbing Code mean the Michigan Building Code, Michigan Residential Code, Michigan Uniform Energy Code, Michigan Electrical Code, Michigan Mechanical Code, and Michigan Plumbing Code respectively. The code is available for inspection at the Okemos office of the Michigan department of ~~consumer and industry services~~**labor & economic growth**, bureau of construction codes and fire safety. The code may be purchased from the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, or from the Michigan Department of ~~Consumer and Industry Services~~**Labor & Economic Growth**, Bureau of Construction Codes and Fire Safety, 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these rules of ~~\$45.00~~**\$50.00** each.

R 408.30905a Definitions.

Rule 905a. The definition of **the act is added and the definition of** code official ~~in section 202 of the code~~ is amended to read as follows:

202. "Act" means 1972 PA 230, MCL 125.1501. and known as the Stille-DeRossett-Hale single state construction code act.

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~~202.~~ “Code official” means a person who is appointed and employed by a governmental subdivision who is charged with the administration and enforcement of the state code or codes, and who is registered in accordance with 1986 PA 54, MCL 338.2301 ~~et seq.~~

R 408.30906a Work permit; submitting plans and specifications to authority.

Rule 906a. Sections 106.1, 106.2, 106.3, **106.3.1** 106.4, 106.4.3 and 106.4.4 of the code are amended to read as follows:

106.1. Permits required. A contractor licensed pursuant to 1984 PA 192, MCL 338.971 ~~et seq.~~ who desires to erect, install, enlarge, alter, repair, remove, convert, or replace a mechanical system, the installation of which is regulated by this code, or to cause such work to be done, shall first make application in accordance with the requirements of **the act.** ~~section 10 of 1972 PA 230, MCL 125.1510.~~

Exception: A person who holds a valid boiler installer license issued under 1965 PA 290, MCL 408.751 ~~et seq.~~ shall secure a permit for the installation of a steam or hot water boiler which carries a pressure of not more than 15 psig for steam and 160 degrees Fahrenheit for hot water, and which is located in a private residence or in an apartment building having 5 or less dwelling units.

106.2. Permits not required. A person is not required to obtain a permit to perform mechanical work on any of the following items:

- (a) A portable heating or gas appliance.
- (b) Portable ventilation equipment.
- (c) A portable cooling unit.
- (d) A minor part that is replaced if the replacement does not affect equipment approval or make it unsafe.
- (e) A portable evaporative cooler.
- (f) Self-contained refrigeration equipment and a window-type air conditioner that is not more than 1.5 horsepower.
- (g) A boiler or pressure vessel for which a permit is required by sections 17 and 18 of 1965 PA 290, MCL 408.767 and 408.768.
- (h) An oil burner that does not require connection to a flue, such as an oil stove and a heater equipped with a wick.
- (i) A portable gas burner that has inputs of less than 30,000 Btu’s per hour.
- (j) **When changing or relocating a gas meter or regulator, a permit is not required when using gas piping limited to 10 feet in length and not more than 6 fittings.**
- (k) **A permit is not required for connection to LP tanks when changing a tank of similar size.**

106.3 Application for permit. Each application for a permit with the required fee, shall be filed with the code official on a form furnished for that purpose and shall contain a general description of the proposed work and its location. The contractor who is performing the work shall sign the application. The permit application shall indicate the proposed occupancy of all parts of the building and of that portion of the site or lot, if any, not covered by the building or structure and shall contain the information required by **the act.** ~~section 10 of 1972 PA 230, MCL 125.1510.~~

106.3.1 Construction documents. Construction documents, engineering calculations, diagrams, and other data shall be submitted in 2 or more sets with each application for a permit. The code official shall require construction documents, computations, and specifications to be prepared and designed by a registered design professional in

accordance with 1980 PA 299, MCL 339.101. Where special conditions exist, the code official may require additional construction documents to be prepared by a registered design professional. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed and show in detail that the work conforms to the provisions of this code. Construction documents for buildings more than 2 stories in height shall indicate where penetrations will be made for mechanical systems, and the materials and methods for maintaining required structural safety, fire-resistance rating and fire blocking.

Exception: The code official may waive the submission of construction documents, calculations or other data if the nature of the work applied for is such that reviewing of construction documents is not necessary to determine compliance with the code.

106.4. Permit issuance. The enforcing agency shall review the application, construction documents, and other data filed by an applicant for permit in accordance with ~~the act. 1972 PA 230, MCL 125.1501 et seq.~~ If the enforcing agency finds that the proposed work conforms to the requirements of the act, the code, and all other applicable laws and ordinances thereto, and that all fees prescribed by the act have been paid, then the enforcing agency shall issue a permit to the applicant.

106.4.3. Expiration. Each permit issued by the code official under the provisions of the code shall expire by limitation and become null and void if the work authorized by the permit is not begun within 180 days from the date of the permit, or if the work authorized by such permit is suspended or abandoned at any time after the work is begun for a period of 180 days. Before work is recommenced, a new permit shall be first obtained, provided no changes have been made or will be made in the original construction document and that suspension or abandonment has not exceeded 1 year.

106.4.4. Extensions. A permittee holding an unexpired permit may apply for an extension of the time within which the permittee may begin work under that permit if ~~for~~ good and satisfactory reasons. The code official shall extend the time for action by the permittee for a period not exceeding 180 days if there is reasonable cause. No permit shall be extended more than once.

R 408.30907a Fees.

Rule 907a. Section 106.5 of the code is amended to read as follows:

106.5. Fees. The fees prescribed by ~~the act section 22 of 1972 PA 230, MCL 125.1522~~ shall be paid to the enforcing agency of the jurisdiction before a permit to begin work for new construction, alteration, removal, demolition, or other building operation may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee is paid.

R 408.30908a Means of appeal.

Rule 908a. Section 109.1 of the code is amended to read as follows:

109.1. Means of appeal. **An interested** person may appeal a decision of the enforcing agency to the board of appeals **in accordance with the act.** An application for appeal shall be based on a claim that the true intent of ~~this~~ code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. **The decision of a local board of appeals may be appealed to the Construction**

Code Commission in accordance with the act and the applicable time frames.~~The application shall be filed under section 14 of 1972 PA 230, MCL 125.1514.~~

R 408.30909a Violations.

Rule 909a. Section 108.4 of the code is amended to read as follows:

108.4 Violation penalties. Any person who violates a provision of this code, who fails to conform with any of the requirements thereof, or who erects, installs, alters, or repairs mechanical work in violation of the approved construction documents or directive of the enforcing agency, or a permit or certificate issued under the provisions of this code, shall be fined in accordance with **the act.**~~section 23 of 1972 PA 230, MCL 125.1523.~~

R 408.30910a Stop work orders.

Rule 910a. Section 108.5 of the code is amended to read as follows:

108.5. Stop work orders. Upon notice from the enforcing agency that mechanical work is being done contrary to the provisions of this code or in a dangerous or unsafe manner, the work shall immediately cease. Notice shall be in accordance with **the act.**~~section 12 of 1972 PA 230, MCL 125.1512.~~ A person who is served with a stop work order, except for work that a person is directed to perform to remove a violation or unsafe condition, is subject to the penalty provisions prescribed by **the act.**~~section 23 of 1972 PA 230, MCL 125.1523.~~

R 408.30912a Enclosed Parking Garages.

Rule 912a. Section 404.1 of the code is amended to read as follows:

404.1. Enclosed parking garages. Mechanical ventilation systems for enclosed parking garages are not required to operate continuously where the system is arranged to operate automatically upon detection of a concentration of carbon monoxide of 25 parts per million (ppm) by approved automatic detection devices. Upon activation such systems shall operate for 30 minutes.

R 408.30915a Scope of article; adoption by reference.

Rule 915a. Section 601.1 of the code is amended to read as follows:

601.1. The provisions of this article govern the construction, installation, alteration, maintenance, and repair of duct systems. Duct systems shall be in compliance with the provisions of the code, the provisions of NFPA 90A-1999**2002** and NFPA 90B-1999**2006**, the standards of the national fire protection association, and the provisions of air conditioning contractors of America (ACCA) manual D-1995, manual J-1986**2006**, manual N-1988, and manual Q-1990, as listed in chapter ~~46~~**15**.

R 408.30918a ~~Duct installation~~**Registers, grilles, and diffusers.**

Rule 918a. Section ~~603.15.1~~**603.17.2** ~~of the code is amended~~ ~~is added to the code~~ to read as follows:

~~603.15.1~~**603.17.2. Floor register locationProhibited locations. Diffusers, registers, and grilles shall be prohibited in the floor or its upward extension within toilet and bathing room floors.**

Exception: Dwelling units. Within dwelling units, fFloor registers **may be** located in a room or space containing water closets, **but** shall be located a minimum of 3 feet from the water closet.

R 408.30927a ~~Electric installation~~ **Roofs and elevated structures.**

Rule 927a. Sections **306.5 and 306.5.1** of the code are amended ~~M 409.4~~ to read as follows:

~~M 409.4. All equipment shall have an electrical disconnect switch on, or immediately adjacent to, the equipment.~~ **306.5 Equipment and appliances on roofs or elevated structures.** Where equipment and appliances requiring access are installed on roofs or elevated structures at a height that requires access exceeding 16 feet (4877 mm), such access shall be provided by a permanent approved means of access, the extent of which shall be from grade or floor level to the equipment and appliances' level service space. Such access shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal (33-percent slope). Where access involves obstructions greater than 30 inches in height, permanent ladders or equivalent, shall be provided on both sides requiring access in accordance with the ladder requirements of this section.

Permanent ladders installed to provide the required access shall comply with the following minimum design criteria:

1. The side railing shall extend above the parapet or roof edge not less than 30 inches (762 mm).
2. Ladders shall have rung spacing not to exceed 14 inches (356 mm) on center.
3. Ladders shall have a toe spacing not less than 6 inches deep.
4. There shall be a minimum of 18 inches (457 mm) between rails.
5. Rungs shall have a minimum 0.75-inch (19 mm) diameter and be capable of withstanding a 300-pound (136.1kg) load.
6. Ladders over 30 feet (9144 mm) in height shall be provided with offset sections and landings capable of withstanding 100 pounds (488.2 kg/m₂) per square foot.
7. Ladders shall be protected against corrosion in accordance with section 104.1 of the code..

Catwalks installed to provide the required access shall be not less than 24 inches (610 mm) wide and shall have railings as required for service platforms.

Exception: This section shall not apply to group R-3 occupancies.

306.5.1 Sloped roofs. Where appliances are installed on a roof having a slope of 3 units vertical in 12 units horizontal or greater and having an edge more than 30 inches above grade at such edge, a level platform shall be provided on each side of the appliance to which the access is required for service, repair, or maintenance. The platform shall not be less than 30 inches in any dimension and shall be provided with guards. The guards shall extend not less than 42 inches above the platform, shall be constructed so as to prevent the passage of a 21-inch-diameter sphere and shall comply with the loading requirements for guards specified in the Michigan building code. Access to appliances shall not require climbing over obstructions greater than 30 inches (762 mm) high or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal permanent ladders, or equivalent, shall be provided on both sides requiring access in accordance with the ladder requirements of section 306.5.

Exception: This section shall not apply to group R-3 occupancies.

R 408.30935a Ventilation requirements for commercial kitchens.

Rule 935a Sections 506.1, 506.3.6, 507.1, 507.2.2, **and** 507.9, ~~507.13.1, 507.13.2, 507.13.3, and 507.13.4~~ of the code are amended and sections ~~507.13.5 and 507.16.1.1~~ **is** are added to the code to read as follows:

506.1. Ventilation requirements for commercial kitchens. Ventilation for commercial kitchens shall be in compliance with NFPA-96-~~2001~~**2004**, the standard of the national fire protection association listed in chapter ~~46~~**15**.

506.3.6 Grease duct clearances. Grease duct systems and exhaust equipment serving a type I hood shall have clearances to combustibles as required by NFPA 96-~~2001~~**2004**, as listed in chapter ~~46~~**15**.

Exception: Listed and labeled factory -built commercial kitchen grease ducts and exhaust equipment installed in accordance with section 304.1 of the code.

507.1 General. Commercial kitchen exhaust hoods shall comply with the requirements of this section and NFPA 96-~~2001~~**2004**, as listed in chapter ~~46~~**15**. Hoods shall be type I or type II and shall be designed to capture and confine cooking vapors and residues.

Exceptions:

1. Factory-built commercial exhaust hoods which are tested in accordance with UL 710~~B-2004~~ **or 197SB-2003**, as listed in chapter ~~46~~**15**, listed, labeled, and installed in accordance with section 304.1 shall not be required to comply with sections 507.4, 507.7, 507.11, 507.12, 507.13, 507.14, and 507.15 of the code.

2. Factory-built commercial cooking recirculating systems which are tested in accordance with UL 197-**2003**, as listed in chapter ~~46~~**15**, listed, labeled, and installed in accordance with section 304.1 of the code shall not be required to comply with sections 507.4, 507.5, 507.7, 507.12, 507.13, 507.14, and 507.15 of the code.

3. Net exhaust volumes for hoods may be reduced during no-load cooking conditions, where engineered or listed multi-speed or variable-speed controls automatically operate the exhaust system to maintain capture and removal of cooking effluents as required.

507.2.2. Type II hoods. Type II hoods shall be installed where cooking or dishwashing appliances produce heat or steam and do not produce grease or smoke, such as steamers, kettles, pasta cookers, dishwashing machines, and ovens.

Exceptions:

1. Under-counter type commercial dishwashing machines.

2. A type II hood is not required for dishwashers and potwashers that are provided with heat and water vapor exhaust systems that are supplied by the appliance manufacturer and are installed in accordance with the manufacturer's instructions.

3. Ovens used for re-heating foods previously cooked.

507.9. Clearances for type I hood. A type I hood shall be installed with clearances from combustibles as required by NFPA 96-~~2001~~**2004** as listed in chapter ~~46~~**15**.

~~507.13.1. Extra heavy duty cooking appliances. The minimum net airflow for type I hoods used for extra heavy duty cooking appliances shall be determined as follows:~~

_____ Type of hood _____	CFM per foot of open perimeter of hood
Wall mounted canopy _____	550
Single island canopy _____	700
Double island canopy (per side) _____	550
Backshelf/pass over _____	not allowed

~~Eyebrow~~ ~~not allowed~~

~~507.13.2. Heavy duty cooking appliances. The minimum net airflow for type I hoods used for heavy duty cooking appliances shall be determined as follows:~~

Type of hood	CFM per foot of open perimeter of hood
Wall mounted canopy	400
Single island canopy	600
Double island canopy (per side)	400
Backshelf/pass-over	400
Eyebrow	not allowed

~~507.13.3 Medium duty cooking appliances. The minimum net airflow for type I hoods used for medium duty cooking appliances shall be determined as follows:~~

Type of hood	CFM per foot of open perimeter of hood
Wall mounted canopy	300
Single island canopy	750
Double island canopy (per side)	300
Backshelf/pass-over	300
Eyebrow	250

~~507.13.4. Light duty cooking appliances. The minimum net airflow for type I hoods used for light duty cooking appliances and food service preparation and cooking operations approved for use under a type II hood shall be determined as follows:~~

Type of hood	CFM per foot of open perimeter of hood
Wall mounted canopy	200
Single island canopy	400
Double island canopy (per side)	250
Backshelf/pass-over	250
Eyebrow	250

~~507.13.5. Dishwashing machines. Dishwashing machines shall be installed under a type II hood.~~

507.16.1.1 Smoke test. The field test identified in section 507.16.1 of the code shall be conducted in accordance with the smoke testing procedures established by the bureau of construction codes and fire safety, which are available at no cost from the bureau's web site at www.michigan.gov/bccfs, or, from the Michigan Department of **Labor and Economic Growth** ~~Consumer and Industry Services~~, Bureau of Construction Codes and Fire Safety, 2501 Woodlake Circle, Okemos, Michigan, 48864.

R 408.30936a Scope of article.

Rule 936a. Sections 1001.2 ~~are~~ added to the code and **section 1004.4.3 of the code is amended** to read as follows:

1001.2. Boilers. In addition to the other provisions of the code, this article governs the installation, alteration, and repair of water heaters and boilers. The installation of boilers shall be in compliance with the provisions of this code and the Michigan boiler code.

1004.4.3. Working clearance. Clearance shall be maintained around boilers, generators, heaters, tanks, and related equipment and appliances so as to permit inspection, servicing, repair, replacement, and visibility of all gauges. When boilers are installed or replaced, clearances shall be provided to allow access for inspection, maintenance, and repair. Passageways around all sides of the boiler shall have an unobstructed width of not less than 24 inches (610 mm), unless otherwise approved.

R 408.30945a ~~Insulation~~ Ventilation; exhaust.

Rule 945a. Sections ~~604.3 and 1204.1~~ **401.4.2, 501.2.1 and 504.4** of the code are amended to read as follows:

~~604.3. Coverings and linings. Coverings and linings, including adhesives when used, shall have a flame spread index not more than 25 and a smoke developed index not more than 50, when tested in accordance with ASTM E 84, using the specimen preparation and mounting procedures of ASTM E 2231. Duct coverings and linings shall not flame, glow, smolder, or smoke when tested in accordance with ASTM C 411 at the temperature to which they are exposed in service. The test temperature shall not fall below 250° F (121° C).~~

~~1204.1 Insulation characteristics. Pipe insulation installed in buildings shall conform to the requirements of the Michigan uniform energy code, shall be tested in accordance with ASTM E 84, using the specimen preparation and mounting procedures of ASTM E 2231 and shall have a maximum flame spread index of 25 and a smoke developed index not exceeding 450. Insulation installed in an air plenum shall comply with section 602.2.1.~~

~~Exception: The maximum flame spread index and smoke developed index shall not apply to 1- and 2-family dwellings.~~ **401.4.2 Exhaust openings. Outside exhaust openings shall be located so as not to create a nuisance. Exhaust openings shall not be directed onto walkways. Exhaust openings shall not terminate within 2 feet of a ventilated section in a soffit.**

501.2.1 Location of exhaust outlets. The termination point of exhaust outlets and ducts discharging to the outdoors shall be located with the following minimum distances:

1. For ducts conveying explosive or flammable vapors, fumes, or dusts: 30 feet (9144 mm) from property lines; 10 feet (3048 mm) from operable openings into buildings; 6 feet (1829 mm) from exterior walls and roofs; 30 feet (9144 mm) from combustible walls and operable openings into buildings which are in the direction of the exhaust discharge; 10 feet (3048 mm) above adjoining grade.

2. For other product-conveying outlets: 10 feet (3048 mm) from the property lines; 3 feet (914 mm) from exterior walls and roofs; 10 feet (3048 mm) from operable openings into buildings; 10 feet (3048 mm) above adjoining grade.

3. For environmental air duct exhaust: 3 feet (914 mm) from property lines; 3 feet (914 mm) from operable openings into buildings for all occupancies other than group U, and 10 feet (3048 mm) from mechanical air intakes.

4. For specific systems: For clothes dryer exhaust, see section 504.4; for kitchen hoods, see section 506.3; for dust, stock and refuse conveying systems, see section 511.2; and for subslab soil exhaust systems, see section 512.4; for bathroom or kitchen exhaust in a residential dwelling see section 401.4.1.

504.4 Exhaust installation. Dryer exhaust ducts for clothes dryers shall terminate on the outside of the building, shall not terminate within 4 feet of a ventilated section in a soffit, and shall be equipped with a back draft damper. Screens shall not be installed at the duct termination. Ducts shall not be connected or installed with sheet metal screws or other fasteners that will obstruct the exhaust flow. Clothes dryer exhaust ducts shall not be connected to a vent connector, vent, or chimney. Clothes dryer exhaust ducts shall not extend into or pass through ducts or plenums.

R 408.30995a Automatic sprinkler systems generally.

Rule 995a. Sections 1600.0, 1600.1, and 1600.2 are added to the code to read as follows:

1600.0. Automatic sprinkler systems; fire suppression systems.

1600.1 Scope. The provisions of this article provide the minimum requirements for the design and installation of automatic sprinkler systems in all occupancies, except for 1- and 2-family dwellings.

1600.2. Installations. Installations shall be in compliance with the provisions of the ~~mechanical~~ code. Fire suppression systems shall be in compliance with the provisions of the building code and shall be installed in accordance with the code and NFPA-13-1996~~2002~~, NFPA-13D-1996~~2002~~, NFPA-13R-1996~~2002~~, and NFPA-24-2002 installation of sprinkler systems, installation of sprinkler systems in 1- and 2-family dwellings and manufactured homes, and installation of sprinkler systems in residential occupancies up to 4 stories in height, standards of the national fire protection association listed in chapter ~~16~~**15**.